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09/126,897	07/31/1998	JEAN-PIERRE WEBER	003250-198	9422

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EXAMINER
BURD, KEVIN MICHAEL

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2631	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/126,897	Applicant(s) WEBER ET AL
	Examiner Kevin Burd	Art Unit 2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jan 16, 2003* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *28-45* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *28-45* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. This office action, in response to the amendment filed 1/16/2003, is a non-final office action.

Response to Arguments

2. Applicant's arguments with respect to claims 28-45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 36, 37 and 43-45 are objected to because of the following informalities: the term "rang" appears on lines 13, 12 and 14 of claims 36, 43 and 44 respectively. Claims 37 and 45 are objected to due to dependence on claims 36 and 44 respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 28, 29, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Standard Telephones and Cables Public Limited Company (GB 2 125 253 A) in view of Fuchigami et al (US 5,960,398).

Regarding claims 28, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66

to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

Regarding claim 29, it is well known to filter signals to eliminate noise components prior to transmission of information. Official Notice is taken that low pass filtering is well known in the art of data transmission systems for removing these noise components.

Regarding claim 36, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation,

demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66 to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

Regarding claim 37, the frequency of the spread copyright information signal is 5 kHz.

Regarding claim 40, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62).

The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66 to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

6. Claims 30, 31 and 38-45 rejected under 35 U.S.C. 103(a) as being unpatentable over Standard Telephones and Cables Public Limited Company (GB 2 125 253 A) in view of Fuchigami et al (US 5,960,398) further in view of Jones et al (US 6,108,317).

Regarding claim 30, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66

to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

The combination does not disclose the step of filtering the combined signal in the receiver to split the signal so the components can be recovered. Jones discloses recovering the signal and separating the signal so the embedded signal can be recovered (column 14, lines 11-14). It would have been obvious of one of ordinary skill in the art at the time of the invention to separated the embedded signal from the combined signal. The goal of all receivers is to recover the signal to be transmitted error free. The removal of the embedded signal is one of the steps of recovering the separate signals. The lowest frequency portion will be the digital audio signal.

Regarding claim 31, it is well known to filter signals to eliminate noise components prior to transmission of information. Official Notice is taken that low pass filtering is well known in the art of data transmission systems for removing these noise components.

Regarding claim 38, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on

an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66 to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard.

The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

The combination does not disclose the step of filtering the combined signal in the receiver to split the signal so the components can be recovered. Jones discloses recovering the signal and separating the signal so the embedded signal can be recovered (column 14, lines 11-14). It would have been obvious of one of ordinary skill in the art at the time of the invention to separated the embedded signal from the combined signal. The goal of all receivers is to recover the signal to be transmitted error free. The removal of the embedded signal is one of the steps of recovering the separate signals. The lowest frequency portion will be the digital audio signal.

Regarding claim 39, it is well known to filter signals to eliminate noise components prior to transmission of information. Official Notice is taken that low pass filtering is well known in the art of data transmission systems for removing these noise components.

Regarding claim 41, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this

optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66 to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

The combination does not disclose the step of filtering the combined signal in the receiver to split the signal so the components can be recovered. Jones discloses recovering the signal and separating the signal so the embedded signal can be

recovered (column 14, lines 11-14). It would have been obvious of one of ordinary skill in the art at the time of the invention to separated the embedded signal from the combined signal. The goal of all receivers is to recover the signal to be transmitted error free. The removal of the embedded signal is one of the steps of recovering the separate signals. The lowest frequency portion will be the digital audio signal.

Regarding claim 42, it is well known to filter signals to eliminate noise components prior to transmission of information. Official Notice is taken that low pass filtering is well known in the art of data transmission systems for removing these noise components.

Regarding claim 43, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation,

demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66 to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

The combination does not disclose the step of filtering the combined signal in the receiver to split the signal so the components can be recovered. Jones discloses recovering the signal and separating the signal so the embedded signal can be recovered (column 14, lines 11-14). It would have been obvious of one of ordinary skill in the art at the time of the invention to separated the embedded signal from the combined signal. The goal of all receivers is to recover the signal to be transmitted error

free. The removal of the embedded signal is one of the steps of recovering the separate signals. The lowest frequency portion will be the digital audio signal.

Regarding claims 44 and 45, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fuchigami discloses spreading and modulating a digital electrical signal (figure 2, element 116) and adding this spread signal to a digital control signal (figure 2, element 121). The digital control signal is a digital audio signal corresponding to the spread copyright information (column 5, line 66 to column 6, line 19). The copyright data has a frequency of 5 kHz (column 5, lines 66-

67) and the frequency of the original audio signal is 2 kHz (column 6, lines 9-10). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the copyright and audio signals into the transmission system of Standard. The combined signal allows both the audio signal and the copyright info to be transmitted rather than just one signal to be transmitted at a time.

The combination does not disclose the step of filtering the combined signal in the receiver to split the signal so the components can be recovered. Jones discloses recovering the signal and separating the signal so the embedded signal can be recovered (column 14, lines 11-14). It would have been obvious of one of ordinary skill in the art at the time of the invention to separated the embedded signal from the combined signal. The goal of all receivers is to recover the signal to be transmitted error free. The removal of the embedded signal is one of the steps of recovering the separate signals. The lowest frequency portion will be the digital audio signal.

7. Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Standard Telephones and Cables Public Limited Company (GB 2 125 253 A) in view of Fukasawa et al (US 5,715,521).

Regarding claim 32, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column

1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fukasawa discloses adding a control signal to the modulated signal before transmission (figure 1 and column 2, line 51 to column 3, line 7). The modulated data signal is spread prior to the addition of the control signal. The combined signal is then modulated by a higher-frequency carrier signal (column 3, lines 34-39). Therefore, the control signal is modulated on a different carrier than the modulated spread signal. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the step of adding a control signal to the modulated signal to the transmission and receiving system of Standard. The control signal is a synchronization signal which helps to ensure proper synchronization of the transmitted signal with the transmission and receiving system.

The synchronization signal will be extracted at the receiver to ensure the synchronization will be maintained.

Regarding claim 33, Fukasawa discloses the synchronization signal generator outputs a base band signal (column 3, lines 35-39) and the base band signal is all that is desired. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to remove all other unnecessary components of the signal to save on processing time and to remove noise.

Regarding claim 34, the above combination does not disclose the control signal is modulated using TDMA. However is would have been obvious for one of ordinary skill in the art at the time of the invention to use TDMA to modulate the control signal. It is advantageous to reserve a time slot for the control information because it will be easier to extract the synchronization information in the receiver than having to despread the signal to extract the synchronization information and then despread the signal again to extract the data. The circuitry will be minimized by not requiring the components to despread the signal the second time.

Regarding claim 35, Fukasawa discloses the information signal is spread in the spreading modulator.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

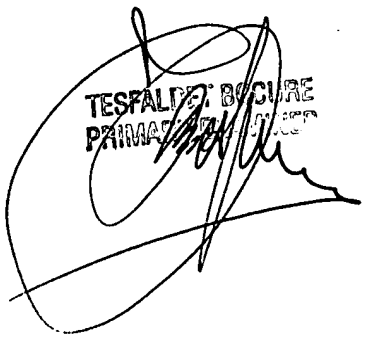
or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Kevin M. Burd
PATENT EXAMINER
February 27, 2003